

What is claimed is:

1. A method of determining performance of a communications system, comprising:

storing representations of plural components of the communications system, the components including a first packet-based network and at least one network device;

assigning one or more performance parameters for each of the components; and

deriving a quality indication of the communications system based on the performance parameters of the components.

2. The method of claim 1, wherein the components include a second packet-based network, the method further comprising assigning one or more performance parameters for the second packet-based network.

3. The method of claim 1, wherein assigning the one or more performance parameters includes assigning a packet delay parameter.

4. The method of claim 1, wherein assigning the one or more performance parameters includes assigning a packet loss parameter.

5. The method of claim 1, wherein assigning the one or more performance parameters includes assigning a packet jitter parameter.

6. The method of claim 1, wherein storing the representations includes storing models of the plural components, the models capable of being linked to create a representation of the communications system.

7. The method of claim 6, further comprising providing a graphical user interface in which the models may be manipulated to create the representation of the communications system.

8. The method of claim 1, wherein deriving the quality indication includes calculating an E-model quality rating value.

1           9.     The method of claim 1, further comprising combining the  
2 representations of the plural components to create the communications system.

1           10.    An apparatus for determining performance of a communications  
2 system, comprising:

3                   a storage device containing representations of plural components of the  
4 communications system, the plural components including a packet-based network and  
5 at least one network device, each of the components being assigned one or more  
6 performance parameters; and

7                   a controller to calculate a predicted quality of the communications  
8 system based on the one or more performance parameters.

1           11.    The apparatus of claim 10, wherein the one or more performance  
2 parameters include a packet delay.

1           12.    The apparatus of claim 11, wherein the packet delay of each network  
2 component is treated as an independent variable.

1           13.    The apparatus of claim 12, wherein the controller calculates an overall  
2 packet delay of the communications system by summing the packet delays of the  
3 plural components.

1           14.    The apparatus of claim 10, wherein a first performance parameter  
2 associated with each network component is treated as an independent variable.

1           15.    The apparatus of claim 14, wherein a value of the overall first  
2 performance parameter is derived by combining the first performance parameters of  
3 the plural components.

1           16.    The apparatus of claim 10, wherein the representation of the packet-  
2 based network includes a representation of a collection of links and routers.

1 17. The apparatus of claim 10, wherein the representation of the packet-  
2 based network includes a representation of an Internet Protocol network.

1 18. The apparatus of claim 10, wherein the packet-based network includes  
2 a public network, and wherein the storage device further contains a representation of a  
3 local network.

1 19. The apparatus of claim 10, wherein the storage device further contains  
2 a representation of a circuit-switched device.

Abstract  
20. An article including one or more machine-readable storage media  
2 containing instructions for modeling performance of a communications system, the  
3 instructions when executed causing a controller to:  
4 store models of plural components of the communications system, the  
5 plural components including a packet-based network and at least one network device;  
6 combine the models to represent the communications system; and  
7 determine a quality level of the communications system using the  
8 stored models.

1 21. The article of claim 20, wherein the instructions when executed cause  
2 the controller to derive an E-model rating using the stored models.

1 22. The article of claim 20, wherein the instructions when executed cause  
2 the controller to store one or more performance parameters to each model.

1 23. The article of claim 20, wherein the performance parameters are  
2 associated with communications of packets through the communications system.

24. The article of claim 23, wherein the performance parameters include at  
2 least one of a packet delay, packet loss, and packet jitter.

1           25.     The article of claim 20, wherein the instructions when executed causes  
2     the controller to associate a performance parameter with each of the plural  
3     components and to combine the performance parameters of each of the plural  
4     components to derive an overall performance parameter value.

1           26.     The article of claim 25, wherein the performance parameter includes  
2     one of a packet delay, packet jitter, and packet loss.

*Art*  
2           27.     A data signal embodied in a carrier wave and including one or more  
3     code segments containing instructions for predicting performance of a  
4                 assign a performance parameter to each of plural components in the  
5     communications system, the plural components including a packet-based network;  
6     and  
7                 derive a quality indication based on the performance parameters of the  
8     plural components.

*Add*  
*Art*